

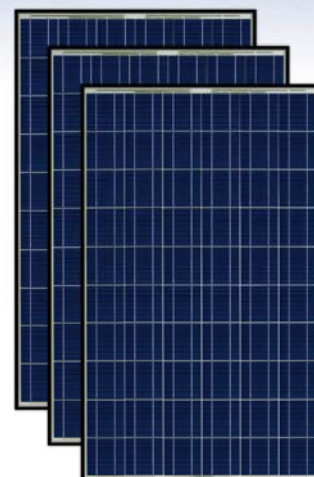
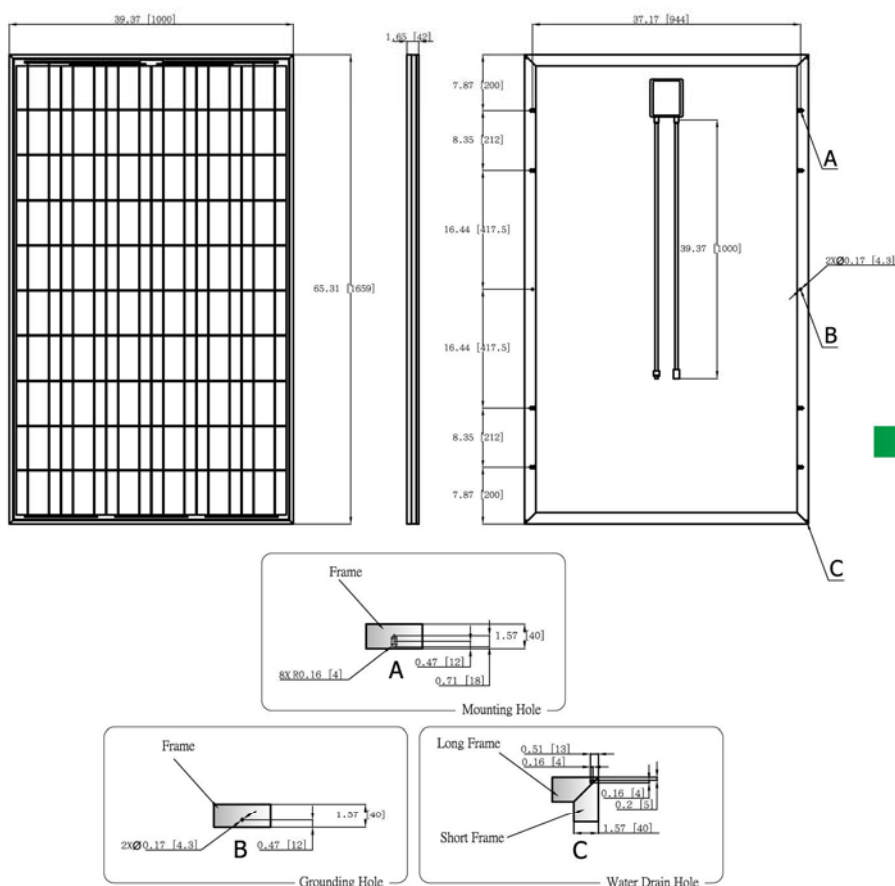


PM230 Black Frame

Features

- Superior quality module made in Taiwan
- Good conversion efficiency of solar module
- Effectively minimize the power drop by the shade
- Produced for high durability to endure severe environmental elements
- High quality glass provides for less reflection of incoming sunrays

Technical Drawing



Product Characteristics

Electrical Characteristics: Performance at STC*

Model Type	PM230
Peak Power, Pmax	230W
Power Tolerance	± 3%
Peak Power Voltage, Vpm	28.83 V
Peak Power Current, Ipm	7.92 A
Open Circuit Voltage, Voc	38.87 V
Short Circuit Current, Isc	8.48 A
Power Density [W / ft ²]	12.88
Power Density [W / m ²]	138.64
Module Efficiency	13.86%
CEC	Listed
CEC PTC** Rating [W]	204.6
FSEC	In Progress

*STC: Standard Test Condition, 1000W/m², AM 1.5, 25°C
 **PTC: PVUSA Test Condition, 1000W/m², 20°C, Wind speed 1 m/s at 10 meters above ground level. For details, please refer to the following URL: <http://www.gosolarcalifornia.ca.gov/equipment/pmmodule.html>

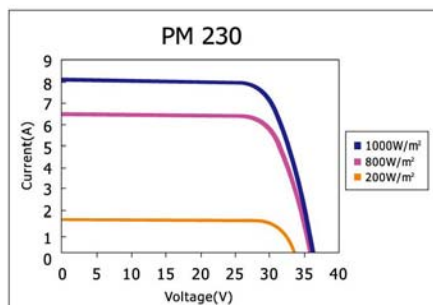
Thermal Characteristics

NOCT (Nominal Operating Cell Temperature) °F, °C	111.56°F, 44.2°C
Temperature Coefficient TK Isc (Short Circuit Current) α	+0.123%/°C
Temperature Coefficient TK Voc (Open Circuit Voltage) β	-0.296%/°C
Temperature Coefficient TK Pmax (Peak Power) γ	-0.376%/°C

System Integration Parameter & Safety Rating

Maximum System Voltage (U.S. & Canada)	600VDC
Maximum System Voltage (Area Not in the U.S. & Canada)	1000VDC (According to Norms in Each Area)
Series Fuse Rating	15A
Fire Safety Class	Class C
Application Class	Class A (Safety Class II)
Environmental Operating Temperature (°F, °C)	-40 to 185°F, -40 to 85°C

Current-Voltage Characteristics (I-V Curve) at Various Irradiance Levels



Component Materials

Cell Qty per Module	60pcs
Cell Type	Polycrystalline Silicon
Cell Dimensions	6x6 in (156x156 mm)
Laminate Construction	Front: Tempered Glass Encapsulation: Solar Cells Embedded in EVA (Ethylene-Vinyl-Acetate) Rear: Tedlar Color of Back Sheet: White
Glass	Low-Iron Tempered Glass Standard Thickness: 0.126 in (=3.2mm) (>0.126in (=3.2mm), ex. 0.157in (=4mm) or above, custom-made possible.)
Junction Box	IP65, Kit with Solar Cables & Connectors, TÜV Certified & UL Listed
Bypass Diodes	3pcs, TÜV Certified & UL Listed
Cable	Solar Cable x2 (Kit with Junction Box & Connector) Cable Length: 39.37/39.37in. (1000/1000mm) Wire Size: AWG #12, 4.0mm², TÜV Certified & UL Listed
Connector	Tyco Connectors, x2 (Male Coupler x1 + Female Coupler x1) MC4 Connectors (Optional), x2 (Male Coupler x1 + Female Coupler x1) TÜV Certified & UL Listed
Frame	Anodized Aluminum Frame. Color: Black

Physical Specifications

Dimension [L x W x H]	65.32 x 39.37 x 1.65 in (1659 x 1000 x 42 mm)
Module Area	17.86 sq. ft (1.66m²)
Weight	46.30Lbs (21Kg)

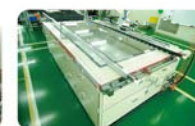
Packing Specifications

Modules Per Carton	12pcs/carton
Modules Per Pallet	24pcs/pallet (=2 Cartons/Pallet)
Pallet Dimension [L x W x H]	66.7x44.7x44.2 in (1694x1134x1122mm)
Pallet Weight	1203.7 Lbs (546Kg)
20ft Container Capacity (pcs)	288
40ft Container Capacity (pcs)	672
53ft Container Capacity (pcs)	864

Limited Warranty***

Product	5Years
90% Output	10Years
80% Output	25Years

***For details, please read our warranty letter.



Certification, Norm Passed, & Incentive

ISO 9001:2000 Quality Management	SGS Certified
IEC 61215:2005	TÜV certified
IEC 61215:2005 10.16	Passed & Complied with Mechanical Load Test for Heavy Snow Load
EN 61730-1 & EN 61730-2:2007	TÜV certified
UL1703 Ed:3 Rev:2004	Intertek Certified According to Safety Standard in the U.S.
ULC/ORD-C1703-01 Second Edition	Intertek Certified According to Safety Standard in Canada
IEC 61701 First Edition 1995.3	Passed & Complied with Salt Mist Corrosion Test Standard
CEC Listing	http://www.gosolarcalifornia.ca.gov/equipment/pvmodule.html
FSEC Listing	In Progress

Though the technical information has been carefully verified and corrected, error data could still be misplaced within. Above data will be subject to change without prior notice due to actual manufacturing condition and design. Please surf for the latest updates on RITEK websites, or contact us:

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